

SEQUENCE LISTING

<110> YOUNG, ANDREW A. KOLTERMAN, ORVILLE G.

<120> USE OF EXENDINS AND AGONISTS THEREOF FOR MODULATION OF TRIGLYCERIDE LEVELS AND TREATMENT OF DYSLIPIDEMIA

<130> 249/124

<140> 09/756,690

<141> 2001-01-09

<150> 60/175,365

<151> 2000-01-10

<160> 188

<170> PatentIn Ver 2.1

<210> 1

<211> 39

<212> PRT

<213> Heloderma horridum

<220>

<223> Exendin-3

<220>

<223> c-term amidation

<400> 1

His Ser Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu 1 1 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser 20 25 30

Ser Gly Ala Pro Pro Pro Ser

<210> 2

<211> 39

<212> PRT

<213> Heloderma suspectum

<220>

<223> Exendin-4

<220>

<223> c-term amidation

<400> 2

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser

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Ser Gly Ala Pro Pro Pro Ser
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<223> Asp or Glu
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<223> Ser or Thr
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<221> MOD RES
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<223> Asp or Glu
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<222> (10)
<223> Leu, Ile, Val, pentylglycine or Met
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<221> MOD_RES
<222> (14)
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<221> MOD_RES
<222> (23)
<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met
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<223> Glu or Asp
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<221> MOD RES
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<223> Trp, Phe, Tyr, or naphthylalanine
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      N-alkylglycine, N-alkylpentylglycine, or N-alkylalanine
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<223> Ser, Thr or Tyr, which is optionally amidated with the
      provision that the compound is not exendin-3 or exendin-4
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Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1
                                    10
Glu Ala Val Arg Leu Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser
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Ser Gly Ala Xaa Xaa Xaa Xaa 35
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<222> (5)
<223> Ala or Thr
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<223> Thr or Ser
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<222> (13)
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<222> (28)
<223> Ala or Asn
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     N-alkylpentylglycine or N-alkylalanine
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<222> (36)..(38)
<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine
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<223> provided that no more than three of Xaa3, Xaa5, Xaa6,
     Xaa8, Xaa10, Xaa11, Xaa12, Xaa13, Xaa14, Xaa15, Xaa16,
     Xaa17, Xaa19, Xaa20, Xaa21, Xaa24, Xaa25, Xaa26, Xaa27
     and Xaa28 are Ala
<220>
<223> this peptide may encompass 28-38 residues, wherein
     residues 1-28 are constant and residues 29-38 may vary
     in length according to the specification
<220>
<223> c-term may be amidated
5
                                  1.0
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<223> Ser, Gly, Ala or Thr
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<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine
      N-alkylpentylglycine or N-alkylalanine
<220>
<223> provided that no more than three of Xaa3, Xaa5, Xaa6, Xaa8,
      Xaal0, Xaal1, Xaal2, Xaal3, Xaal4, Xaal5, Xaal6, Xaal7, Xaal9, Xaa20, Xaa21, Xaa24, Xaa25, Xaa26, Xaa27 and Xaa28
      are Ala
<220>
<223> provided also that, if Xaal is His, Arg or Tyr, then at
      least one of Xaa3, Xaa4 and Xaa9 is Ala
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<223> this peptide may encompass 28-39 residues, wherein
     residues 1-28 are constant and residues 29-39 may vary
     in length according to the specification
<223> c-term may be amidated
Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
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Ser Gly Ala Xaa Xaa Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
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<210> 8
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Glu Ala Val Arg Leu Ala Ile Glu Phe Leu Lys Asn
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<400> 9
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                25
Ser Gly Ala Pro Pro Pro Ser
        35
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser Ser
Gly Ala Pro Pro Pro Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
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                                    10
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala Pro Pro Pro Tyr
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His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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                                25
Ser Gly Ala Pro Pro Pro Ser
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                                    10
Met Glu Glu Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
Gly Pro Ser Ser Gly Ala Pro Pro Pro Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser Gly Ala Pro Pro Pro Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
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His Gly Glu Gly Thr Phe Thr Thr Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser

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Ser Gly Ala Pro Pro Pro Ser
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His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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                                 25
                                                     30
Ser Gly Ala Pro Pro Pro Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
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Ser Gly Ala Pro Pro Pro Ser
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Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn Gly Gly Pro Ser
            20
Ser Gly Ala Pro Pro Pro Ser
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            20
                                25
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Ser Gly Ala Pro Pro Pro Ser

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Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn Gly Gly Pro Ser
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                                                     30
Ser Gly Ala Pro Pro Pro Ser
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn Gly Gly Pro Ser
            20
                                25
Ser Gly Ala Pro Pro Pro Ser
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                                25
Ser Gly Ala Pro Pro Pro Ser
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Ser Gly Ala Xaa Xaa Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala Xaa Xaa Xaa Ser
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                 25
Ser Gly Ala Xaa Xaa Ser
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                                    10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser Gly Ala Xaa Xaa Ser

<223> tPro

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<400> 35
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa Ser
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<210> 36
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<223> Description of Artificial Sequence: Exendin Agonist
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<222> (38)
<223> tPro
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<223> c-term amidation
<400> 36
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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                                     10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
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                                 25
Ser Gly Ala Xaa Xaa Ser
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 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
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Ser Gly Ala Xaa Xaa Ser
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<220>
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<400> 38
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20
                                25
Ser Gly Ala Xaa Xaa Ser
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<210> 39
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<223> Description of Artificial Sequence: Exendin Agonist
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<400> 39
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
                                 25
Ser Gly Ala Xaa Xaa Ser
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<210> 40
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<400> 40
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 41
<211> 28
<212> PRT
<213> Artificial Sequence
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<222> c-term amidation
<400> 41
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 42
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<400> 42
His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
            20
<210> 43
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<223> c-term amidation
<400> 43
His Gly Glu Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 44
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<212> PRT
<213> Artificial Sequence
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<400> 44
His Gly Glu Gly Thr Ala Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 45
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<400> 45
His Gly Glu Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<400> 46
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 47
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<223> c-term amidation
<400> 47
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 48
<211> 28
<212> PRT
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<400> 48
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 49
<211> 28
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<220>
<223> c-term amidation
<400> 49
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 50
<211> 28
<212> PRT
<213> Artificial Sequence
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<223> c-term amidation
<400> 50
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
            20
<210> 51
<211> 28
<212> PRT
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<400> 51
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Ala Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
            20
<210> 52
<211> 28
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<223> c-term amidation
<400> 52
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Ala
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 53
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<212> PRT
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<220>
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<220>
<223> c-term amidation
<400> 53
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 54
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 55
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<400> 55
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Ala Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 56
<211> 28
<212> PRT
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<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 56
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
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<210> 57
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<212> PRT
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<220>
<223> c-term amidation
<400> 57
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Ala Phe Leu Lys Asn
            20
<210> 58
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<212> PRT
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<400> 58
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
            20
<210> 59
<211> 28
<212> PRT
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<220>
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<223> c-term amidation
<400> 59
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                    10
Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn
            20
<210> 60
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<212> PRT
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<223> c-term amidation
<400> 60
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
<210> 61
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<400> 61
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
<210> 62
<211> 38
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 62
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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            20
Ser Gly Ala Pro Pro Pro
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<210> 63
<211> 38
<212> PRT
<213> Artificial Sequence
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<223> c-term amidation
<400> 63
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro
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<210> 64
<211> 37
<212> PRT
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<220>
<223> c-term amidation
<400> 64
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20
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Ser Gly Ala Pro Pro
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<210> 65
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<212> PRT
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<223> c-term amidation
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                25
Ser Gly Ala Pro Pro
        35
<210> 66
<211> 36
<212> PRT
<213> Artificial Sequence
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<223> c-term amidation
<400> 66
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro
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<210> 67
<211> 36
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
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<400> 67
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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                                    10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro
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<210> 68
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
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<223> c-term amidation
<400> 68
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20
                                25
                                                     30
Ser Gly Ala
<210> 69
<211> 35
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 69
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                25
Ser Gly Ala
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<210> 70
<211> 34
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<212> PRT
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<220>
<223> c-term amidation
<400> 70
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser Gly
<210> 71
<211> 34
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 71
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly
<210> 72
<211> 33
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 72
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser

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<210> 73
<211> 33
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 73
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser
<210> 74
<211> 32
<212> PRT
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<220>
<223> c-term amidation
<400> 74
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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<210> 75
<211> 32
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 75
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser 20 30 <210> 76 <211> 31 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Exendin Agonist <220> <223> c-term amidation <400> 76 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro <210> 77 <211> 31 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Exendin Agonist <220> <223> c-term amidation <400> 77 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro <210> 78 <211> 30 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Exendin Agonist <220> <223> c-term amidation <400> 78

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu

5

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly

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20
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<210> 79
<211> 29
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 79
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
<210> 80
<211> 29
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 80
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
<210> 81
<211> 38
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
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<222> (31)
<223> tPro
<220>
<221> MOD RES
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<222> (36)
<223> tPro
<220>
<221> MOD RES
<222> (37)
<223> tPro
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<221> MOD RES
<222> (38)
<223> tPro
<220>
<223> c-term amidation
<400> 81
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa Xaa
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<210> 82
<211> 38
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD_RES
<222> (36)
<223> tPro
<220>
<221> MOD RES
<222> (37)
<223> tPro
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<221> MOD RES
<222> (38)
<223> tPro
<220>
<223> c-term amidation
<400> 82
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                 5
                                     10
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser

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20
                                 25
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Ser Gly Ala Xaa Xaa Xaa
        35
<210> 83 ·
<211> 37
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD RES
<222> (31)
<223> NMeala
<220>
<223> c-term amidation
<400> 83
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
            20
                                 25
                                                     30
Ser Gly Ala Pro Pro
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<210> 84
<211> 37
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
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<222> (31)
<223> NMeala
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<221> MOD_RES
<222> (36)
<223> NMeala
<220>
<221> MOD_RES
<222> (37)
<223> NMeala
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<220>
<223> c-term amidation
<400> 84
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa
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<210> 85
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<222> (37)
<223> hPro
<220>
<223> c-term amidation
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
            20
                                25
Ser Gly Ala Xaa Xaa
        35
<210> 86
<211> 36
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<220>
<223> Description of Artificial Sequence: Exendin Agonist
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<220>

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<222> (31)
<223> hPro
<220>
<221> MOD RES
<222> (36)
<223> hPro
<220>
<223> c-term amidation
<400> 86
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                 25
Ser Gly Ala Xaa
        35
<210> 87
<211> 35
<212> PRT
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<223> c-term amidation
<400> 87
Arg Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                25
                                                     30
Ser Gly Ala
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<210> 88
<211> 30
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
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<400> 88
His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
<210> 89
<211> 28
<212> PRT
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<220>
<221> MOD RES
<222> (6)
<223> naphthylalanine
<220>
<223> c-term amidation
<400> 89
His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 90
<211> 28
<212> PRT
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<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 90
His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
                                    10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 91
<211> 28
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
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<220>
<223> c-term amidation
<400> 91
His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 92
<211> 28
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 92
His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Ala Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
            20
                                25
<210> 93
<211> 28
<212> PRT
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD RES
<222> (10)
<223> pentylgly
<223> c-term amidation
<400> 93
His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
                                    10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
            20
<210> 94
<211> 28
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Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
<210> 95
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<400> 95
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
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<223> c-term amidation
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
<210> 97
<211> 33
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<400> 97
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
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His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
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Ser Gly Ala Xaa Xaa
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<223> c-term amidation
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His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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                                    10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 103
<211> 28
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<400> 103
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 104
<211> 28
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<223> c-term amidation
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                                    10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<210> 105
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His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<223> c-term amidation
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His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<210> 108
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His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<220>
<223> c-term amidation
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                    10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
            20
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Ala Gly Asp Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 114
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<400> 114
Ala Gly Asp Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 116
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<223> c-term amidation
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 121
<211> 28
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<210> 122
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<212> PRT
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 123
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<220>
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<400> 124
Ala Gly Asp Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<400> 126
Ala Gly Asp Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<400> 127
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                                    10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<211> 28
<212> PRT
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<223> c-term amidation
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<223> c-term amidation
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Met Glu Glu

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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn 20 25 <210> 134 <211> 28 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Exendin Agonist <220> <223> c-term amidation <400> 134 Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn 20 <210> 135 <211> 28 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Exendin Agonist <220> <223> c-term amidation <400> 135 Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn <210> 136 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Exendin Agonist <220> <223> c-term amidation

Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn

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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Ala Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<400> 144
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Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Ala Leu Phe Ile Glu Trp Leu Lys Asn
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<210> 148
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Glu Ala Val Arg Ala Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Xaa Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
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<210> 153
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<220>
<223> c-term amidation
<400> 153
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn
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                                 25
<210> 154
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<400> 154
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
                                25
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Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn
<210> 157
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Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn
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<400> 158
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
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<210> 159
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Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
            20
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Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
            20
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<400> 161
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Ala Lys Asn
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<210> 162
 <211> 28
 <212> PRT
 <213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 162
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn
            20
<210> 163
<211> 28
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 163
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Ala Asn
<210> 164
<211> 28
<212> PRT
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<220>
<223> c-term amidation
<400> 164
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
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<210> 165
<211> 28
<212> PRT
<213> Artificial Sequence
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<220>
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<223> c-term amidation
<400> 165
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Ala
            20
<210> 166
<211> 28
<212> PRT
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 166
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
            20
<210> 167
<211> 38
<212> PRT
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Glv ~
                                 25
Ser Gly Ala Pro Pro Pro
        35
<210> 168
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<211> 38



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<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 168
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro
        35
<210> 169
<211> 37
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 169
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20
Ser Gly Ala Pro Pro
        35
<210> 170
<211> 36
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 170
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
                                    10
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20
                                 25
                                                     30
Ser Gly Ala Pro
        35
<210> 171
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 171
Ala Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                                     30
                                 25
Ser Gly Ala Pro
        35
<210> 172
<211> 35
<212> PRT
<213> Artificial Sequence
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<220>
<223> c-term amidation
<400> 172
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser Gly Ala
        35
<210> 173
<211> 35
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
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<220>
<223> c-term amidation
<400> 173
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala
        35
<210> 174
<211> 34
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 174
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                25
Ser Gly
<210> 175
<211> 33
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 175
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
                 5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser
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<210> 176
<211> 32
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<220>
<223> c-term amidation
<400> 176
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
<210> 177
<211> 32
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
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<223> c-term amidation
<400> 177
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
<210> 178
<211> 31
<212> PRT
<213> Artificial Sequence
<220>
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<220>
<223> c-term amidation
<400> 178
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro
            20
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<210> 179
<211> 30
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 179
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly
                                 25
<210> 180
<211> 29
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 180
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
<210> 181
<211> 38
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD RES
<222> (31)
<223> tPro
<220>
<221> MOD RES
<222> (36)
<223> tPro
<220>
<221> MOD_RES
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<222> (37)
<223> tPro
<220>
<221> MOD RES
<222> (38)
<223> tPro
<220>
<223> c-term amidation
<400> 181
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                25
Ser Gly Ala Xaa Xaa Xaa
        35
<210> 182
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD_RES
<222> (36)
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<220>
<221> MOD RES
<222> (37)
<223> tPro
<220>
<221> MOD_RES
<222> (38)
<223> tPro
<220>
<223> c-term amidation
<400> 182
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Xaa Xaa Xaa
        35
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<210> 183
<211> 37
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD_RES
<222> (31)
<223> NMeala
<220>
<221> MOD_RES
<222> (36)
<223> NMeala
<220>
<221> MOD_RES
<222> (37)
<223> NMeala
<220>
<223> c-term amidation
<400> 183
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                 25
            20
Ser Gly Ala Xaa Xaa
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<210> 184
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<221> MOD RES
<222> (31)
<223> hPro
<220>
<221> MOD RES
<222> (36)
<223> hPro
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<400> 184
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                 25
Ser Gly Ala Xaa
        35
<210> 185
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 185
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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                                    10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala
        35
<210> 186
<211> 30
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 186
His Gly Asp Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
            20
                                 25
<210> 187
<211> 39
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Exendin Agonist
<220>
<223> c-term amidation
<400> 187
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20
Ser Gly Ala Pro Pro Pro Ser
        35
<210> 188
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Exendin Agonist
<223> c-term amidation
<400> 188
Ala Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
            20
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Ser Gly Ala Pro Pro Pro Ser

35